AMENDMENTS TO THE CLAIMS

1-13. Cancelled

14. (Currently Amended) A *Borellia burgdorferi* epitope polypeptide with an amino acid sequence comprising SEQ ID NO: 7. ~~The composition of matter of claim 1, wherein said epitope polypeptide comprises GMTFRAQEGAFLTG.~~

15. (Currently Amended) The epitope polypeptide ~~composition of matter~~ of claim 14, wherein said epitope polypeptide consists essentially of SEQ ID NO: 7. ~~GMTFRAQEGAFLTG- (beta-A) (beta-A) C.~~

16-45. Cancelled

46. (New) A *Borellia burgdorferi* epitope polypeptide with an amino acid sequence comprising SEQ ID NO: 7, wherein the polypeptide binds to an antibody found in a subject with Lyme disease.

47. (New) The epitope polypeptide of claim 46, wherein the epitope polypeptide comprises a composition.

48. (New) The epitope polypeptide of claim 46, wherein the polypeptide comprises a kit for detecting Lyme disease in a subject.

49. (New) The epitope polypeptide of claim 46, wherein detecting Lyme's disease in a subject comprises determining that a subject has the antibody found in a subject with Lyme's disease.

50. (New) The epitope polypeptide of claim 48, wherein the subject is a human.

51. (New) The epitope polypeptide of claim 48, wherein the kit further comprises a reporter moiety.

52. (New) The epitope polypeptide of claim 51, wherein the reporter moiety is attached directly to the epitope.

53. (New) The epitope polypeptide of claim 51, wherein the reporter moiety is attached directly to an epitope carrier.

54. (New) The epitope polypeptide of claim 51, wherein the reporter moiety is attached both directly to the epitope and to the epitope carrier.

55. (New) The epitope polypeptide of claim 51, wherein the reporter moiety is colloidal metal, carbon black, latex bead, or biotin.

56. (New) The epitope polypeptide of claim 55, wherein the reporter moiety is biotin.

57. (New) The epitope polypeptide of claim 56, wherein the biotin is detected with a spectrophotometer.

58. (New) An assay for identifying the presence of an antibody that binds to an antigen associated with Lyme's disease in a fluid sample, wherein the antibody is immunologically reactive with a *Borellia burgdorferi* epitope, the assay comprising:

providing a fluid sample from a subject that may contain an antibody that binds to an antigen associated with Lyme's disease;

contacting the sample with an epitope comprising an amino acid sequence of SEQ ID NO: 7;

detecting the antibody-epitope complex, wherein detection of the antibody-epitope complex indicates the presence of the antibody that binds to an antigen associated with Lyme's disease in the sample.

59. (New) The assay of claim 58, wherein the epitope is attached directly to a reporter moiety.

60. (New) The assay of claim 58, wherein the epitope is attached to a carrier at a first location, and the carrier is attached at a reporter moiety at a second location.

61. (New) The epitope polypeptide of claim 58, wherein the epitope is attached both to the reporter moiety directly and to the reporter moiety where the epitope is attached to a carrier at a first location, and the carrier is attached at a reporter moiety at a second location.

62. (New) The epitope polypeptide of claim 58, wherein the reporter moiety is colloidal metal, carbon black, latex bead, or biotin.

63. (New) The epitope polypeptide of claim 62, wherein the reporter moiety is biotin.

64. (New) The assay of claim 63, wherein the biotin is detected with a spectrophotometer.

65. (New) The assay of claim 58, wherein the fluid sample is serum.

66. (New) The assay of claim 65, wherein the serum is blood serum.

67. (New) The assay of claim 58, wherein the fluid sample is derived from a human.

68. (New) The assay of claim 58, wherein detecting the presence of the antibody that binds to an antigen associated with Lyme's disease in a sample indicates that a subject from which the sample derives has Lyme's disease.

69. (New) The assay of claim 68, wherein the assay is enzyme-linked immuno-sorbent assay, capillary immuno-chromatography, or column immuno-chromatography.

70. (New) The assay of claim 69, wherein the is enzyme-linked immuno-sorbent assay.